

TELLOX 29

FORM NO. 51-4AA
FEB 1952

CENTRAL INTELLIGENCE AGENCY

CLASSIFICATION SECRET/CONTROL - U.S. OFFICIALS ONLY
SECURITY INFORMATION 50X1-HUM

INFORMATION REPORT

REPORT

CD NO. 50X1-HUM

COUNTRY East Germany

DATE DISTR. 26 November 1952

SUBJECT Visit of Russian Officers to Inspect Equipment
Produced at Werk fuer Fernmeldewesen HF (OSW)

NO. OF PAGES 3

DATE OF INFO.

NO. OF ENCLS. 50X1-HUM
(LISTED BELOW)

PLACE ACQUIRED

SUPPLEMENTARY REPORT

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES, WITHIN THE MEANING OF TITLE 18, SECTIONS 793 AND 794, OF THE U.S. CODE, AS AMENDED. ITS TRANSMISSION OR REVELATION OF ITS CONTENTS TO OR RECEIPT BY AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. THE REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION 50X1-HUM

50X1-HUM

1. On 10 September 1952, the Werk fuer Fernmeldewesen "HF" (OSW) (Berlin-Oberschoene-weide, Ostendstrasse 1-5) was visited by five uniformed Soviet Army officers. They did not introduce themselves to any of the rank and file employees of OSW. The party consisted of a major, who appeared to be in charge, a captain, and three officers of lower rank. From their conversation, as translated by the interpreter, they appeared to be technical experts in the matters they discussed.
- They wore uniforms with the red piping of the type associated by the Germans of OSW with Russian signals officers. They spoke virtually no German. They behaved as if they had just arrived from the USSR and showed exceptional curiosity in the smallest, even nontechnical, things. Their attitude toward the Germans was not that of men accustomed to associating with Germans. The visitors were received by Dr. Ulrich of OSW and then proceeded to inspect certain parts of OSW. The Russians made enquiries concerning the following equipment being made at OSW, all produced by OSW on orders of the Russians.
- Power meter
2. The requirement originally placed with OSW by the Russians was to develop a power meter for 0.1 watt for measuring received power and a high power set for 1 to 10 watts to measure transmitter power. These measuring sets were to be built as field sets for battery connection, with a wave range of 15 to 60 cm. Power measurement with these sets is affected by a thermal method using a matched load resistance of 75 ohms.
3. The time constant of the indicator is very large, amounting to about 3 minutes. For the purpose of achieving more rapid measuring, a crystal detector is incorporated in the instrument. The Russian major objected to the detector, since it could be affected by mechanical vibration, but the development engineer (Herr Krause, head

CLASSIFICATION SECRET/CONTROL - U.S. OFFICIALS ONLY

STATE	X	NAVY	X	NSRB		DISTRIBUTION							
ARMY	X	AIR	X	FBI		OSI/P&E BY							

SECRET/CONTROL - U.S. OFFICIALS ONLY

50X1-HUM

- 2 -

of the Decimeter Laboratory) pointed out that the detector measurement was an additional one, which could be dispensed with if desired. These two pieces of equipment were ready as laboratory models, but had still to be made mechanically robust. Five sets of each were to be delivered.

4. The Russians have asked for a third wave meter, on which Herr Krause has not yet started to work. This is for a wave length of 3 cm. The development of this piece of equipment is more difficult than for the other two, since the same measuring technique cannot be applied at this frequency.

Measuring receiver

5. This is a measuring receiver with a linear dynamic characteristic. It is for measuring relative signal strength; the field strength of the decimeter wave transmitter is measured in microvolts. This set is also for field use with battery supplies and also for 15 to 60 cm waves. It has been developed by Herr Krause.
6. Krause has been working on the equipment since January 1952 and it is not yet finished, although it is hoped that it will be completed by the end of September 1952. From results observed so far, it is already clear that the specified low sensitivity of 100 to 200 kTo will be attained. A mixing valve of metal ceramic type, presumably a diode, is used in this apparatus.
7. A logarithmic amplifier for LF will be used with the equipment. This, however, is being developed by another engineer.

Equipment for measurement of antenna input resistance

50X1-HUM

8. This equipment is to be used for measurement of the absolute value of resistances between 100 and 1,000 ohms at frequencies from 50 mcs to 70 kcs. No development work has yet been carried out, and the engineer responsible told the Russian major that, so far, he was dealing with the problem on a theoretical basis. To a further question from the Russian major as to which method of measurement had been decided upon, the engineer stated that he proposed to use a bridge method. To this the major remarked that in solving the same problem, [] had been obliged to overcome great difficulties before they completed their double-T section equipment for frequencies from 50 kcs to 30 mcs. Their greatest difficulties had been in reaching the 30 mcs limit. The major expressed doubts concerning the solution of the problem by a bridge method.

Field strength meter

9. The requirement was for the development of a simple field strength meter as a substitute for the comparator; it is also to be a field instrument. Development is in the hands of Tourley (fmu), the chief of the decimeter wave signal generator laboratory.
10. The equipment developed by Tourley has a disadvantage, since it must be recalibrated against a comparator every time it is moved to a site with new ground characteristics. The Russian major objected that there was no point in producing this as a new apparatus under these circumstances, since the comparator had to be brought along too. Here Dr. Neithardt (fmu) broke into the conversation and suggested that this problem could not be solved in any other way (Dr. Neithardt

SECRET/CONTROL - U.S. OFFICIALS ONLY

50X1-HUM

SECRET/CONTROL - U.S. OFFICIALS ONLY

- 3 -

worked in the USSR in Monino on the development of field strength measurement and must be regarded as competent.) Tourley explained that the comparator need not always be carried along, since a calibration coefficient for various ground conditions could be worked out. Dr. Neithardt objected to this procedure, which he considered could raise the error of the measurement to 100 percent. Finally, the Russian major instructed Tourley to continue the work and to work out the necessary tables and supply them with the equipment. Measurements with this equipment give only relative values for frequencies up to 50 mcs; an estimate of the range is up to 100 microvolts. Tourley has been working on this development since January 1952.

Logarithmic amplifier.

11. This is intended as an ancilliary apparatus for the power meter described in paragraph 2. Development is being done by the NEF section under direction of Springstein (fnu).
12. The Russian visitors intended to return at the end of September 1952 in order to observe the progress of these developments.

SECRET/CONTROL - U.S. OFFICIALS ONLY